

REMARKS

Claims 30-39 are pending. Claims 30-33, 35, and 37 are rejected under 35 USC 102(b) as being anticipated by Kuchlin et al. ("HIGHROBOT: Telerobotics in the Internet", Copyright 1997). Claims 34, 36 and 38 are rejected under 35 USC 103(a) as being unpatentable over Kuchlin in view of US 6,529,780 (Soergel) and US 2004/0015383 (Rathjen). Claim 39 is rejected under 35 USC 103(a) as being unpatentable over Kuchlin in view of US 6,321,272 (Swales). No amendments are made herein. Claims 30-39 are presented for examination. Paragraph numbers herein refer to the substitute specification.

Response to Rejections Under 35 USC 102

The industrial automation module of Kuchlin, called "HighRobot", is installed on the operating system (section 3.2, par. 4, lines 1-2: "*Due to the fact that the HighRobot control is running on the standard operating system Solaris 2.x . . .*"). HighRobot is not installed on the web server. In fact it is the other way around -- the web server is installed on HighRobot (section 3.2, par. 4, lines 6-8: "*We installed a Web-Server, discussed in section 4, on the HighRobot control making the system accessible via the Internet*"). This is the opposite of Applicants' configuration as claimed and shown, in which an industrial control module 4, 11, 16, 21, 37, 61 is installed on a web server 3, 10, 15, 20, 33, 54 respectively. In claim 30: "*a plurality of interface-compatible software expansion modules installed on the web server kernel*" and "*a second one of the expansion modules providing real-time process control of at least one hardware component of an industrial automation system*".

Examiner states on page 3, lines 4-5: "*Kuchlin discloses a web server carrying out web server functionalities as well as industrial automation functionalities.*" However, Kuchlin does not disclose Applicants' claimed structure, as argued above. MPEP 2144: "*Even if the prior art device performs all the functions recited in the claim, the prior art cannot anticipate the claim if there is any structural difference.*"

Applicants' industrial automation module is integrated directly into the web server as an expansion module. It does not run directly on the operating system. Instead, the web server

loads, configures, starts, and terminates the automation module (par. 21, lines 15-17). This architecture is recited in claim 30, and is shown in FIGs 1, 2, and 3. Integration with the web server is achieved via a standard interface protocol for web server extension modules, such as API (claims 35, 36) or CGI (claims 37, 38).

The opposite teaching of Kuchlin, in which the server is installed on the control, is reiterated in page 117, first column, lines 8-10: *"Speaking in software terms, the remote system is a client program that interacts with a server application on the HighRobot control."*

Since Kuchlin does not teach every aspect of the invention as claimed in the independent claim, Applicants respectfully request withdrawal of the 102 rejections.

Response to Rejections Under 35 USC 103

Soergel and Rathjen do not address the above deficiencies in Kuchlin, so the proposed combinations do not produce the invention as claimed in the independent claim 30.

Regarding claim 39, Swales never mentions an operating system with a real-time portion and a non-real-time portion. Swales uses a real-time operating system 44, a real-time PLC 70, and a network interface 16 to a non-real-time network 14, 74 (col. 10, lines 29-31: *"the real time portion, i.e., the PLC system 70 and non-real time, i.e., the Internet 14 and intranet 74 portions of the overall system."*). Therefore, Swales does not meet Applicants' claim 39.

The PLC 32 of Swales corresponds functionally to Applicants' industrial control module 4 per Applicants' par. 17 lines 16-18: *"The first web server 3 includes an expansion module 4 which takes on the functions of a programmable logic controller (PLC)." However, whereas Applicants install the industrial control on the web server, Swales installs the web server on the industrial control (PLC) (Swales col. 4, lines 48-51: "The web server 30 previously described includes the functionalities of the bridge 78, a web site server 90, and a proxy 92 and is plugged into the backplane 88 of the PLC 80."*). As with Kuchlin, this is the opposite of Applicants' configuration.

Therefore, Swales does not address the deficiencies of Kuchlin as to the independent claim 30 or the dependent claim 39. Accordingly, Applicants respectfully request withdrawal of the 35 USC 103 rejections.


Conclusion

For anticipation under 35 U.S.C. 102, a reference must teach every aspect of the claimed invention either explicitly or impliedly. Any feature not directly taught must be inherently present (MPEP 706.02(a) IV). The identical invention must be shown in as complete detail as recited in the claim, and the elements must be arranged as required by the claim (MPEP §2131). These criteria are not met by Kuchlin as to the independent claim 30, as argued above. Accordingly, Applicants request withdrawal of the 35 USC 102 rejections. Soergel, Rathjen, and Swales do not address the deficiencies in Kim, so they do not produce the invention as claimed in the independent claim 30. Combining Swales with Kuchlin does address the deficiencies of Kim as to the independent claim 30, and does not produce the invention of claim 39, as argued above. Accordingly, Applicants request withdrawal of the 35 USC 103 rejections. The other dependent claims should be allowable as including the limitations of an allowable base claim. Therefore Applicants feel this application is in condition for allowance, which is respectfully requested.

The commissioner is hereby authorized to charge any appropriate fees due in connection with this paper, including the fees specified in 37 C.F.R. §§ 1.16 (c), 1.17(a)(1) and 1.20(d), or credit any overpayments to Deposit Account No. 19-2179.

Respectfully submitted,

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